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PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

085.10762-US(03-501)

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on August 30, 2007

Signature Actoinette Sullo

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Application Number

10/734,696

Filed

December 12, 2003

First Named Inventor

Robert L. Memmen

Art Unit

3726

Examiner

John C. Hong

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐ applicant/inventor.

☐ assignee of record of the entire interest.
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

☒ attorney or agent of record. 37,238
Registration number

☐ attorney or agent acting under 37 CFR 1.34.
Registration number if acting under 37 CFR 1.34

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Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

☐ *Total of _____ forms are submitted.

This collection of information is required by 35 U.S.C. 132. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11, 1.14 and 41.6. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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App. No.:	10/734,696	Att'y Docket:	EH-10762 (03-501)
Filing Date:	December 12, 2003	Conf No.:	1219
Inventor(s):	Robert L. Memmen et al.	Group Art Unit:	3726
Assignee:	United Technologies Corporation	Examiner:	John C. Hong
Title:	TURBINE ELEMENT REPAIR		

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Reasons Appendix

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Remarks

Claims 1-31 were pending in the application. Claims 1-15 were rejected. Claims 16-31 were withdrawn. No claims were merely objected to and no claims were allowed.

Claim Rejections-35 U.S.C. 102

Claims 1, 3-6, and 15 were rejected as being anticipated by Hass et al. (WO03/028428). Applicants respectfully traverse the rejection.

Haas et al. merely identifies coating deposition for thermal barrier coatings (TBCs), namely the bondcoat. Page 21, lines 3&4. The deposition is distinguished from the "underlying material". Page 1, lines 30-31. Haas et al. identifies applying the coating to a substrate 320. However, Haas et al. does not identify using its deposition to replace material lost from the substrate. The Office action incorrectly cites page 9, lines 31&32.

The repair of the cited page 9, line 31&32 is distinguishable. This passage merely identifies that the deposition may be used to locally restore the coating on a large airfoil that is being repaired. However, the repair of the substrate of that airfoil is not performed with the Haas et al. method and apparatus. For example, the repair may be a well-known local weld repair over which the coating is being locally applied. Haas et al does not suggest substrate repair be

performed by its deposition.

The cursory Advisory Action first erred in its characterization of claim 1. Claim 1 identifies a part which has lost first material "from a metallic substrate..." Hass et al. identifies applying a coating to a substrate 320. The Advisory Action asserts "Hass et al. al. [sic] may teach [a] metallic coating, but mettalic [sic] coating [is] also a metallic substrate." As best can be understood, this vitiates the term substrate.

Page 21, lines 1-3 was cited for the modulation. This passage merely reads: "By employing plasma enhancement, multisource crucibles and process condition control, the morphology, composition and grain size of deposited layers are controlled." No modulation of the claim 1 potential or the claim 6 ionization is disclosed or suggested, let alone the particular modulations of claim 3-6. Regarding claims 3-6, the Office action merely contained the conclusory and insufficient statement: "Regarding claims 3-6, these limitations are disclosed by Hass, such as heating and modulating (page 16, lines 12 "periodically altering [sic] voltage)." Office action, page 3, lines 2&3. However, this passage of Haas et al. instead says that the bias generator "allows for generation of a positive, a negative or a periodically alternating voltage..." Such an alternating voltage does not imply modulation. Variants of the term "modulate" are not found in Haas et al. No modulation function is apparent.

The Advisory Action makes two errors. First it repeats the misreading of "alternating" as "altering". Second, it then bootstraps this into modulating. The reference to periodically alternating voltage does not imply modulation, generally, and the particular modulation of dependent claims.

Regarding claim 15, Haas et al merely casts a broad net of "0.1 to about 32,350 Pa" but actually suggests: "Typical operating pressures are approximately in the 0.05 to 0.5 Torr range..." Page 5, line 32 and page 10, line 1. Clearly there is no anticipation. For the lowest end of the broadest range to be off by an order of magnitude says that something else is clearly going on and teaches away from the subject matter of claim 15. This was not addressed in the Advisory Action.

Claim Rejections-35 U.S.C. 103

Claims 2 and 7-12 were rejected under 35 U.S.C 103(a) as being unpatentable over Hass et al. in view of Neal et al. (US2002/0076573). Applicants respectfully traverse the rejection.

Neal et al. involves a more analogous goal of substrate restoration and should be treated as the primary reference in such a rejection. Being directed to coating, rather than substrate resotation, Haas et al. is improper as a primary reference and patently insufficient as a secondary reference. This was not addressed in the Advisory Action.

There would be no motivation for the articulated combination. Regarding the basic combination as applies to claims 2 and 16. The Office action merely contained the conclusory and insufficient statement: "... it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the process of Hass wherein the turbine blade is a Ti alloy and the repair material is Ti-based, in light of the teachings of Neal, in order to efficiently repair titanium superalloy turbine blades." Office action, page 3. This was not a goal of Haas et al. Presumably, if it was, Haas et al would have adopted the Neal et al. teaching wholesale (e.g., first using the Neal et al. method to repair the substrate and then using the Haas et al. method to apply a coating over the repaired area). Haas et al., instead, had the goal of depositing a bondcoat and there is no motivation to seek variance based upon Neal et al. Furthermore, there would not be expectation of improvement over Neal et al. to attempt the substitution of Haas et al. apparatus and method elements. This was not addressed in the Advisory Action.

As noted above, the impropriety of the combination can better be seen with Neal et al as the primary reference. There is clearly no suggestion to modify Neal et al. based upon Haas et al. Additionally, the combination fails to cure the insufficiencies of the anticipation rejections of the underlying claims. The rejections of the remaining claims merely further bootstrapped upon the insufficient basic combination. Due to the deficiency of the basic combination and deficiencies of the underlying anticipation rejection (e.g., no suggestion to optimize a modulation parameter where there is no disclosure or suggestion to modulate at all) these rejections are clearly overcome. These issues were not addressed in the advisory action.

Claims 13 and 14 were rejected under 35 U.S.C 103(a) as being unpatentable over Hass et al. and Neal et al. in view of Carl, Jr. et al. (US6754955). Applicants respectfully traverse the rejection.

The copper chill plate of Carl, Jr. et al. was asserted as being the presently-claimed backing element. However, there is no teaching that this plate is applied to the component or that the material builds up on the base surface and this component. FIG. 4 of Carl, Jr. et al. clearly shows this component spaced apart from the weld build-up material 30. This does not appear to be an exploded view because the surface 32 is shown as irregular whereas the adjacent surface of the chill plate 26 is clearly straight (in section). The chill plate may, for example, be positioned to block adjacent airfoils from splatter.

Furthermore, there is no suggestion for the combination. The conclusory "to repair the tip of a turbine blade" is not sufficient. There is no suggestion that there is a deficiency for which Carl, Jr. et al. provides a cure.

The rejection also suffers the deficiencies of the underlying rejections based upon Haas et al. and the Haas et al. and Neal et al. combination. These issues were not addressed in the advisory action.

Respectfully submitted,

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